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A Review of the Fishes of the Family Parapercidae Found in the Waters of Japan

By

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A Review of the Fishes of the Family Parapercidae Found in the Waters of Japan

(With 2 Plates)

By

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In the present paper is given a review of the fishes belonging to the family Parapercidae, known to inhabit the waters of Japan. A majority of the specimens were collected by myself, with the assistance of students of Kōchi University and others. The specimens, chiefly from various localities of Kōchi Prefecture, Amami-Ōshima and adjacent regions of Kagoshima Prefecture, and so on, are referable to 2 genera and 15 species, of which one genus and one species seem to be new to the science. All the specimens which had been deposited in my laboratory were destroyed by a war-caused fire in 1945.

In the following descriptions the standard length is measured from the tip of snout to the base of uppermost ray of caudal. Color notes almost all refer to material in formalin.

Parapercis BLEEKER

Percis BLOCH & SCHNEIDER. Syst. Ichth., 1801, p. 179 (*maculatus*) (not of Scopoli; a genus of Agonidae, 1777).

Parapercis BLEEKER, Ned. Tijds. Dierk., vol. 1, 1863, p. 236; type, *Sciaena cylindrica* BLOCH.

Neopercis STEINDACHNER & DÖDERLEIN, Denkschr. Akad. Wiss. Wien, vol. 49, 1885, p. 212; type, *Percis ramsayi* STEINDACHNER.

Osurus JORDAN & EVERMANN, Bull. U. S. Fish Comm., vol. 22, 1903, p. 206; type, *Parapercis schauinslandi* STEINDACHNER.

Chilias OGILBY, Proc. Roy. Soc. Queensland, vol. 23, 1910, p. 40; type, *Percis stricticeps* DE VIS.

Body elongate, cylindrical. Head somewhat depressed. Snout naked; opercular bones and upper part of head behind eyes scaly. Scales small, ctenoid; those of head, breast and belly often cycloid. Mouth moderate, slightly oblique, the jaws equal or subequal. Lips thick. Teeth in jaws in villiform bands, with an outer series of enlarged ones, sometimes canines. Teeth on vomer in a few rows, on palatines in one or two rows or absent. Dorsal with 4 or 5 spines and 19 to 24 rays, the soft portion much higher than the spinous one. Anal similar to, but shorter than soft dorsal, with or without a feeble spine and 16 to 21 rays. What is named spine here may be really soft ray. Ventrals with a short spine and 5 rays, situated below or slightly in advance of pectorals. Caudal truncate or slightly rounded. Lateral line single, curved upward anteriorly; gill membranes free from the isthmus. Marine fishes of the tropical and warm temperate Indo-Pacific, from the Red Sea and Africa to the Philippines, Japan, Australia, the Hawaiian, Solomon, New Hebrides, Fiji, Samoan and Society Islands, and the subtropical parts of West Atlantic. They are found either near the shore or in rather deep water.

Key to the species of *Parapercis* of Japan

(Species marked with an asterisk is that which I have never found from Japan.)

a¹……Dorsal spines 5.
b¹……Dorsal notched, its middle spines highest.
c¹……Palatines toothed; third dorsal spine longest.
d¹……About 50 scales in lateral line……*cylindrica*
d²……About 40 scales in lateral line……*snyderi*
c²……Teeth on palatines absent; fourth dorsal spine longest.
e¹……A large black blotch on caudal.
f¹……A black blotch on upper part of caudal base……*ommatura*
f²……A black blotch on middle part of caudal base……**hexophthalma*
e²……No black blotch on caudal.
g¹……A small black ring on suprascapular region……*tetracantha*
g²……No black ring on suprascapular region. A whitish longitudinal band on body.
h¹……Six dark cross bars on body, interrupted by the whitish longitudinal band……*pulchella*
h²……Nine dark cross bars on body, interrupted by the whitish longitudinal band……*xanthozona*
b²……Dorsal spines with first shortest, then graduated in length up to fifth, which is longest. Palatines toothed.
i¹……Several dark streaks along longitudinal series of scales on upper half of each side of body……*mimaseana*
i²……No longitudinal streaks on body.
j¹……Four v-shaped brown markings on upper part of body……*sexfasciata*
j²……No v-shaped markings on body.
k¹……A black blotch on middle part of caudal base……*multifasciata*
k²……No black blotch on caudal.
l¹……57 scales in lateral line. Color light olivaceous yellow, with five brown, oblique, cross bands above lateral line……*muronis*
l²……More than 60 scales in lateral line.
m¹……Color light yellow, with seven broad yellowish cross bands on body……*aurantiaca*
m²……Color yellowish, paler below. Several, oblique, yellow bands below lateral line……*okamurai*, n. sp.
a²……Dorsal spines 4……*decemfasciata*

1. *Parapercis cylindrica* (BLOCH) Dandara-taragisu (Pl. I, Fig. 1)

Sciaena cylindrica BLOCH, Nat. Ausl. Fische., 6, 1792, p. 42, pl. 299, fig. 1.
Percis cylindrica GÜNTHER, Cat. Fish., 2, 1860, p. 239. China Seas.
Parapercis cylindrica BLEEKER, Ned. Tijds. Dierk., 4, 1873 (1874), p. 127. China. —SEALE, Philip. Jour. Sci., 9, Biol., 1914, p. 79. Hong Kong. —FOWLER, Mem. B.

P. Bishop Mus., 10, 1928, p. 424. China. —BEAUFORT & CHAPMAN, Fish. Indo-Austral. Archip., 9, 1951, p. 19. China. —HERRE, Check list Philip. fish., 1953, p. 782. —FOWLER, Quart. Jour. Taiwan Mus., 9 (3 & 4), 1956, p. 335, fig. 60. Aguni Shima.

Chilias synaphodesmus FOWLER, Proc. Acad. Nat. Sci. Philad., 98, 1946, p. 212, fig. 38. Aguni Shima, Riu Kiu. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 693. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 4 (1), 1957, p. 60, fig. 36. Sōmachi, Kikaijima.

D. V (3rd spine longest), 21; A. 18; scales 51 in lateral line; 4 above, 15 below; gill rakers 3+6. Head 3.7 in length; depth 3.7; eye 5.2 in head; snout 2.7; interorbital 6.5; depth of caudal peduncle 2.6. Snout rather pointed. Maxillary reaches below anterior rim of eye; jaws equal; teeth on palatines. Two broad opercular spines, the upper the larger. Caudal broadly rounded posteriorly.

Color brownish above, whitish below. Brown band from eye over cheek. Ten brown bands from lower sides complete across belly and tail below. Spinous dorsal with a large blackish brown blotch; soft dorsal pale, with several rows of round blackish spots terminally; anal whitish, with scattered brown spots; caudal whitish, with several irregular dark transverse lines broken as spots. Paired fins pale brown, with dark band at pectoral base; ventrals with scattered brown dots.

Described and figured from a single specimen, 113 mm long (Cat. No. 6238), from Sōmachi, Kikaijima, Kagoshima Prefecture. The figure is the work of my daughter, Mrs. Kyōko Hara, then Kyōko Kamohara, a student of Kōchi University. I agree with Fowler (1956) in admitting *Chilias synaphodesmus* FOWLER to the synonymy of this species.

Kikaijima, Kagoshima Prefecture to China; the East Indies; the Philippines; Australia; Melanesia and Polynesia.

2. *Parapercis snyderi* JORDAN & STARKS Kōrai-toragisu

Parapercis snyderi JORDAN & STARKS, Proc. U. S. Nat. Mus., 28, 1905, p. 210, fig. 10. Korea; Nagasaki, Japan. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyo, 33 (1), 1913, p. 365, fig. 323. Korea. —REEVES, Jour. Pan Pac. Res. Inst., 2 (3), 1927, p. 13. Korea. —KAMOHARA, Bot. and Zool., 6 (8), 1938, p. 1451. Kōchi. —MORI, Mem. Hyōgo Univ. Agric. 1 (3), Biol. Ser. 1, 1952, p. 124. Fuzan, Korea. —FOWLER, Quart. Jour. Taiwan Mus., 9 (3 & 4), 1956, p. 334. China. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 121, fig. 357. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

Neopercis snyderi JORDAN & RICHARDSON, Mem. Carnegie Mus., 6 (1), 1913, p. 41. Korea.

Cilias snyderi MATSUBARA, Fish Morph. & Hier., I 1955, p. 693.

D. V (3rd spine longest), 21; A. 17—18; scales 40—42 in lateral line; 3 above, 10 below; gill rakers 2—3+9. Head 3.8—3.9 in length; depth 4.4—4.6; eye 3.2—4.6 in head; snout 2.9—3.2; interorbital 6.5—7.7; depth of caudal peduncle 2.3—2.6. Maxillary reaches opposite front edge of pupil; jaws even or lower very slightly projects; small sharp teeth in narrow bands on vomer and palatines. Opercle with 2 spines on hind edge. Caudal broadly rounded, the upper rays somewhat produced in the larger specimens.

Color light brown, with 5 v-shaped dark blotches along back. Pale lateral band, below which 9 blended elongate cross spots. An ocellus on each side in scapular region. A

large black blotch on pectoral base. Soft dorsal with 3 longitudinal rows of dark brown spots; caudal with 4 or 5 transverse rows of similar spots.

Described from three specimens, 100 (Cat. No. 1338), 85 (Cat. No. 3856) and 58 (Cat. No. 3855) mm long respectively, from Muroto, Kōchi Prefecture.

Kominato, Chiba Prefecture to Kyūshyū; Korea and China.

3. *Parapercis ommatura* JORDAN & SNYDER Mato-toragisu

Parapercis ommatura JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 465, fig. 1. Nagasaki; Tsuruga; Kobe. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 365, fig. 322. —FOWLER, Proc. Acad. Nat. Sci. Philad., 81, 1929, p. 616. Hong Kong. —KAMOHARA, Bot. & Zool., 6 (7), 1938, p. 1294. Kōchi. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. Taiwan. —FOWLER, Ibid., 9 (3 & 4), 1956, p. 337. —TOMIYAMA & ABE, Figs. & Descripts. Fish. Japan, 59, 1958, p. 1221, pl. 236, fig. 594. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 121, fig. 356.

Cilias ommatura MATSUBARA, Fish Morph. & Hier., 1, 1955, p. 692. Southern Japan.

D. V (4th spine longest), 22; A. 19; scales 58—60 in lateral line; 4 above, 12 below; gill rakers 2—3+10. Head 3.9—4.1 in length; depth 6.1—6.4; eye 3.6—4 in head; snout 3.6—4; interorbital 10—12; depth of caudal peduncle 3—3.3. Maxillary reaches below anterior rim of eye; lower jaw slightly projects. Teeth on palatines absent. Preopercle edge with several small spines on angular portion; opercle with two spines, the upper the stronger. Caudal rounded posteriorly.

Color pale brownish yellow, with a few indistinct dusky v-shaped marks and elongate spots on sides. Two narrow lengthwise dark bands on cheek. Soft dorsal with 2 or 3 rows of elongate brown spots on membranes. Anal dusky near edge. Upper basal part of caudal with round black spot size of pupil, bordered by narrow light ring. Pectoral pale; ventral dark gray, bordered by white.

Described from two specimens, 87 (Cat. No. 2262) mm long, from Urado, Kōchi City and 90 (Cat. No. 1924) mm long, from Mimase, Kōchi City.

Atsumi Bay, Aichi Prefecture and Tsuruga to Hong Kong, China.

4. *Parapercis hexophalma* (CUVIER & VALENCIENNES) Naname-toragisu

Percis hexophthalma (EHRENBERG) CUVIER & VALENCIENNES, Hist. Nat. Poiss., 3, 1829, p. 271. Massuah, Red Sea. —GÜNTHER, Cat. Fish., 2, 1860, p. 239. Red Sea. —DAY, Fish. India, 1878, p. 263, pl. 57, fig. 4.

Parapercis hexophthalma JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 466. Riu Kiu Islands. —SNYDER, Ibid., 42, 1912, p. 416. Naha, Okinawa. —BBRNARD, Ann. South African Mus., 1927, p. 442, pl. 19, fig. 1. Mozambique, East Africa. —SCHMIDT, Trans. Pac. Comm. Acad. Sci. USSR. 1, 1930, p. 133. Formosa; Yaeyama, Okinawa. —MARTIN & MONTALBAN, Philip. Jour. Sci., 56, 1935, p. 219, pl. 2, fig. 1. Luzon. —BEAUFORT & CHAPMAN, Fish. Indo-Austral. Archip., 9, 1951, p. 24. —HERRE, Check list Philip. fish., 1953, p. 783. —FOWLER, Quart. Jour. Taiwan Mus., 9 (3 & 4), 1956, p. 338.

Chilias hexophthalma FOWLER, Proc. Acad. Nat. Sci. Philad., 98, 1946, p. 211. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 692.

D. V (4th spine longest), 21; A. I, 17; scales 60—71 in lateral line; 8 above, 16 below. Head 3.5 in length; depth 5.5—5.8; eye 5—5.2 in head; snout 2.8. Maxillary

reaches below front pupil edge; hind preopercle edge slightly rough; opercle with 2 flat spines.

Color in alcohol reddish brown, paler below. Head with black spots above and oblique lines on cheeks (or spots in female). Some scales on back and tail above with dark hind border, these scales in groups forming short oblique stripes. On side 3 lengthwise rows of 7 or 8 dark elongate patches, those of upper and lower rows connected by indistinct dark cross-bands, which continue on belly.

Any specimens have never procured by me, so the description by Fowler (1956) was reproduced concisely herewith. Probably anal spine should be considered as soft ray.

Okinawa-Hontō to Red Sea; Africa; Australia; Melanesia and Polynesia.

5. *Parapercis tetracantha* (LACÉPÈDE) Madara-toragisu (Pl. I, Fig. 2)

Labrus tetracanthus LACÉPÈDE, Hist. Nat. Poiss., 3, 1802, pp. 473, 488; 2, 1802, pl. 13, fig. 3.

Percis cancellata CUVIER & VALENCIENNES, Hist. Nat. Poiss., 3, 1829, p. 200 (268). —BLEEKER, Nat. Tijds. Ned.-Ind., 9, 1855, p. 501. Batjan —BLEEKER, Ibid., 19, 1859, p. 331. Java. —GÜNTHER, Cat. Fish., 2, 1860, p. 241. Amboyna; Feejee Islands.

Parapercis tetracanthus JORDAN & RICHARDSON, Bull. U. S. Bur. Fish., 27, 1908, p. 281. Luzon. —WEBER, Siboga-Exped., 57, Fische, 1913, p. 518. —BEAUFORT & CHAPMAN, Fish. Indo-Austral. Archip., 9, 1951, p. 26, fig. 7.

Parapercis tetracantha OGILBY, Proc. Roy. Soc. Queensland, 20, 1910, p. 40. —MARTIN & MONTALBAN, Philip. Jour. Sci., 56, 1935, p. 217, pl, 1, fig. 2. Mindanao. —HERRE, Check list Philip. fish., 1953, p. 783.

Parapercis nipponensis KAMOHARA, Zool. Mag., Tōkyō, 48, 1936, p. 933, fig. 4. Okinoshima, Kōchi Prefecture. —KAMOHARA, Bot. & Zool., 6 (7), 1938, p. 1294, fig. 1 —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

Cilias tetracanthus MATSUBARA, Fish Morph. & Hier., I, 1955, p. 692.

D. V (4th spine longest), 21; A. I, 17; scales ca. 65 in lateral line, 9 above. Head 3.5 in length; depth 6.3; eye 5.4 in head; snout 3.1; interorbital 7.1; depth of caudal peduncle 3.3. Mouth large, the lower jaw the longer; maxillary extending to a little beyond below anterior rim of eye. Villiform teeth on vomer but none on palatines. Caudal broadly rounded, upper rays a little produced.

Color light yellowish. A narrow brown band from head to caudal; 8—9 broad transverse bands, the first over nape, the others connecting the longitudinal band with base of dorsal, the last on caudal peduncle; 8—9 similar transverse bands on lower sides, slightly alternating with those on back.

The type specimen of *nipponensis* was destroyed by a war-caused fire in 1945 and no specimens at hand, so the original description by me was reproduced herewith. Probably anal spine should be considered as soft ray. It may immediately be recognized by the small black ring on the suprascapular region.

Kōchi Prefecture to Africa; New Guinea and Polynesia.

6. *Parapercis pulchella* (TEMMINCK & SCHLEGEL) Toragisu (Pl. I, Fig. 3)

Percis pulchella TEMMINCK & SCHLEGEL, Fauna Japonica, Poiss., 1843, p. 24, pl. 10, fig. 2. Nagasaki. —RICHARDSON, Ichth. China and Japan, 1846, p. 211. Japan; Canton. —GÜNTHER, Cat. Fish., 2, 1860, p. 240. Nagasaki. —DAY, Fish. India, 1876, p. 263, pl. 58, fig. 2. Madras. —STEINDACHNER & DÖDERLEIN, Fische Japans, III, 1884, p.

190. Tōkyō Bay. —NYSTRÖM, Svensk. Vet. Akad., 1887, p. 28. Nagasaki.
Parapercis pulchella BLEEKER, Ned. Tijds. Dierk., 4, 1873 (1874), p. 127. China. —JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 463. Wakanoura; Nagasaki. —SNYDER, Ibid., 42, 1912, p. 445. Shimizu, Prov. Suruga. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 364. Canton. —JORDAN & THOPMSON, Mem. Carnegie Mus., 6, 1914, p. 292. Misaki, Prov. Sagami. —SEALE, Philip. Jour. Sci., 9, 1914, Biol., p. 79. Hong Kong. —JORDAN & HUBBS, Mem. Carnegie Mus., 10, 1925, p. 311. Misaki, Prov. Sagami. —REEVES, Jour. Pan Pac. Res. Inst., 2 (3), 1927, p. 13. Canton. —TANAKA, Figs. & Descripts. Fish. Japan, 34, 1937, p. 754, pl. 164, figs. 458, 459 and 460; pl. 165, fig. 461. —KAMOHARA, Bot. & Zool., 6 (7), 1938, p. 1294. Kōchi. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool. II, 1958, p. 121, fig. 355. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.
Cilias pulchella MATSUBARA, Fish Morph. & Hier., I, p. 693.

D. V (4th spine longest), 21; A, 18; scales 62 in lateral line; 7 above, 21 below; gill rakers 3—4+8. Head 3.7—4 in length; depth 4.6—5.3; eye 3.8—4.7 in head; snout 3.2—3.6; interorbital 5.2—6.5; depth of caudal peduncle 2.6—2.7. Mouth wide, the lower jaw the longer; villiform teeth on vomer but none on palatines. Maxillary extending below anterior rim of pupil. Caudal broadly rounded, upper rays somewhat produced in adults.

Color reddish brown, with a broad bluish white lateral band. Six dark cross bars on body, interrupted by the lateral band. A broad yellowish band extending from eye toward maxillary; cheeks reddish; sides of head and upper part of snout with narrow bands of indigo blue; throat whitish with black markings. Soft dorsal with yellowish olive spots; membrane of upper part of caudal with alternating spots of orange and of pearly white, lower part brick red with indistinct white spots.

Described from three specimens, Cat. No. 4276 from Susaki, Cat. No. 3854 from Usa and Cat. No. 6763 from Mimase, with the length 182, 138 and 115 mm respectively.

Tōkyō to Korea; South China and India.

7. *Parapercis xanthozona* (BLEEKER) Kokuten-toragisu

Percis xanthozona BLEEKER, Verh. Bat. Genootsch., 1849, 1 (22), p. 59. —GÜNTHER, Cat. Fish., 2, 1860, p. 240. —PLAIFAIR & GÜNTHER, Fish. Zanzibar, 1866, p. 69, pl. 8, fig. 3. Sea of Batavia.
Neopercis xanthozona KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1452. Kashiwajima, Kōchi Prefecture. —MATSUBARA, Fish Morph. & Hier., I, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.
Parapercis xanthozona BEAUFORT & CHAPMAN, Fish. Indo-Austral. Archip., 9, 1951, p. 22.

D. V (4th spine longest), 21; A. 18; scales 66 in lateral line; 7 above, 20 below; gill rakers 5—7+10. Head 3.7—4 in length; depth 5.5—6.5; eye 4.8—5.3 in head; snout 3—3.2; interorbital 7—7.2; depth of caudal peduncle 2.9—3. Maxillary reaching to below anterior border of eye. Lower jaw somewhat projecting; no teeth on palatines. Opercle with two spines. Caudal broadly rounded posteriorly.

Color brownish red, belly lighter. A whitish longitudinal band from axil of pectoral to middle of base of caudal, and continued to the end of that fin. Nine dark cross bars on body, interruped by the whitish longitudinal band. Head with dark markings. Soft dorsal with 3 longitudinal rows of dark spots, anal with a single row of them. Caudal

with several transverse rows of dark spots.

Described from two specimens, 188 (Cat. No. 6844) and 137 (Cat. No. 2135) mm long respectively, from Okinoshima, Kōchi Prefecture. The specimen from Kashiwajima was destroyed by a war-caused fire in 1945.

Kōchi prefecture to Africa; Australia and Melanesia.

8. *Parapercis mimaseana* (KAMOHARA) Suji-toragisu (Pl. II, Fig. 1)

Neopercis mimaseana KAMOHARA, Zool. Mag., Tōkyō, 49, 1937, p. 189, fig. 3. Mimase, Kōchi City. —KAMOHARA, Bot. & Zool., 6 (8), p. 1452. —MATSUBARA, Fish Morph. & Hier., I. 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

Neopercis striolata KAMOHARA (not M. Weber, *N. mimaseana* in my later papers), Ibid., 45, 1933, p. 476. Off Kōchi Prefecture.

Parapercis striolata TOMIYAMA & ABE, Figs. & Descripts. Fish. Japan, 59, 1958, p. 1226, pl. 236, fig. 595. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 120, fig. 354.

D. V. 23; A. 20; scales 62—64 in lateral line; 6—7 above, 13 below; gill rakers 2—5+9—13. Head 3.8—3.9 in length; depth 4.8—5.3; eye 3—3.6 in head; snout 3.5—3.6; interorbital 9.8—10.5; depth of caudal peduncle 2.6—2.8. Maxillary extends to below anterior margin of pupil; jaws equal; uniserial teeth on palatines. Opercle provided with two spines, the lower flat and shorter than the upper. Caudal broadly rounded posteriorly.

Color yellowish brown, with 6 or 7 dark streaks along longitudinal series of scales on upper half of each side of body. Spinous part of dorsal black, narrowly margined with white. Anal broadly edged with gray; upper half of caudal crossed by about 8 dark vertical streaks; lower part of pectoral brownish. The longitudinal dark streaks serve to distinguish this species at once from any other member of this group known to me from Japan.

Described from three specimens, 180 (Cat. No. 1878), 150 (Cat. No. 4572) and 95 (Cat. No. 4558) mm long respectively, from Mimase, Kōchi City. The type specimen which is figured in this review was destroyed by a war-caused fire in 1945. Tomiyama & Abe (1958) regarded this species as a synonym of Weber's *striolata*, but I am not quite sure of it.

Mie Prefecture to Kōchi Prefecture.

9. *Parapercis sexfasciata* (TEMMINCK & SCHLEGEL) Kurakake-toragisu

Parcis sexfasciata TEMMINCK & SCHLEGEL, Fauna Japonica, Poiss., 1843, p. 25. Nagasaki. —GÜNTHER, Cat. Fish., 2. 1860, p. 241.

Parapercis sexfasciata BLEEKER, Ned. Tijds. Dierk., 4, 1873 (1874), p. 127. China. —STEINDACHNER & DÖDERLEIN, Fische Japans, III, 1884, p. 22. Tōkyō. —FOWLER, Quart. Jour. Taiwan Mus., 9 (3 & 4), 1956, p. 339. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 119, fig. 350.

Neopercis sexfasciatus MORI, Mem. Hyōgo Univ. Agric., 1 (3), 1952, Biol. Ser. 1, p. 125. Korea.

Neopercis sexfasciata JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 467. Tōkyō etc. —TANAKA, Figs. & Descripts., Fish. Japan, 9, 1912, p. 164, pl. 43, figs. 167 and 168; pl. 45, fig. 174. —JORDAN & RICHARDSON, Mem. Carnegie Mus., 6 (1), 1913, p. 411. Fuzan, Korea. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 866. —REEVES, Jour. Pan Pac. Res. Inst., 2 (3), 1927, p. 13. China. —CHU, Biol. Bull. St. John's Univ., 1, 1931, p. 169. Hong Kong.

—KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1452. Kōchi. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. Taiwan. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

D. V, 23; A. 20—21; scales 63 in lateral line; 7—8 above, 18 below; gill rakers 3—7 + 10—12. Head 3.7—4.1 in length; depth 5.3; eye 2.8—3.7 in head; snout 2.9—3.1; interorbital 7.4—11; depth of caudal peduncle 2.4—2.9. Maxillary extending below anterior rim of pupil; jaws equal; vomer and palatines toothed. Opercle with two short spines. Caudal broadly rounded.

Color olivaceous brown, pale beneath; four v-shaped brown markings on upper parts of body. A dark cross band across cheek separated from its fellow of the other side by eye; a dark white-edged ocellus at upper edge of base of caudal. Dorsal pale, with a narrow faint band near dorsal edge; upper part of caudal with about five undulating cross bands fusing together more or less in upper parts.

Described from three specimens, Cat. No. 4443 from Gotō, Nagasaki Prefecture, Cat. No. 762 and Cat. No. 2370 from Mimase, Kōchi City, with the length 196, 177 and 106 mm respectively.

Ibaraki Prefecture to Ariake Sea; Korea; Formosa and South China.

10. *Parapercis multifasciata* DÖDERLEIN Oki-toragisu

Parapercis multifasciata DÖDERLEIN, Fische Japans, III, 1884, p. 190, pl. 4, figs. 2, 2a. Bay of Tōkyō. —FOWLER, Quart. Jour. Taiwan Mus., 9 (3 & 4), 1956, p. 339. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 120, fig. 353.

Percis multifasciata NYSTRÖM, Svensk. Vet. Ak., 1887, p. 28. Nagasaki.

Neopercis multifasciata JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 468. Tōkyō. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 366. —TANAKA, Figs. & Descripts. Fish. Japan, 27, 1918, p. 486, pl. 133, fig. 375. —KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1452. Kōchi. —KAMOHARA, Offshore bottom-fish., Maruzen Co., Tōkyō, 1938, p. 63. —LIANG, Taiwan Fish. Res. Inst., 1951, 32. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. Taiwan. —MORI, Mem. Hyōgo Univ. Agric., 1 (3), Biol. Ser. 1, 1952, p. 125. Korea. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

D. V, 23; A. 20; scales 60 in lateral line; 6 above, 21 below; gill rakers 4—6+7—9. Head 3.7—4 in length; depth 5.2—6; eye 3—3.3 in head; snout 2.8—3.3; interorbital 5.5—6.5; depth of caudal peduncle 2.4—2.9. Maxillary reaching vertical through anterior margin of pupil; lower jaw slightly longer; vomer and palatines with villiform teeth. Opercle with a spine. Caudal rounded when spread.

Color reddish yellow; lighter below; 10 brown cross bands, arranged in pairs more or less, abruptly fading out near lateral line below. A yellowish band runs across top of head behind eyes; behind it a similar band and another brown-margined yellowish band above base of pectoral; dorsal pale, with brown oblique lines posteriorly. Base of caudal with a blackish irregular blotch; several brown vertical lines on upper part of caudal.

Described from three specimens, 172 (Cat. No. 2431) from Urado, Kōchi City, 138 (Cat. No. 660) and 113 (Cat. No. 8927) from Mimase, Kōchi City, mm long respectively.

Tōkyō to Formosa and Korea.

11. *Parapercis muronis* (TANAKA) Muro-toragisu

Neopercis muronis TANAKA, Zool. Mag., Tōkyō., 30, 1918, p. 227. Tanabe, Prov. Kii. —TANAKA, Figs. & Descripts. Fish. Japan, 1918, p. 536. Tanabe, Prov. Kii. —KAMOHARA, Offshore bottom-fish., Maruzen Co., Tōkyō, 1938, p. 63. Mimase, Kōchi City. —KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1453. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. —MATSUBARA, Fish Morph. & Hier., I. 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

D. V, 23; A. 20; scales 57 in lateral line; 5 above, 11 below; gill rakers 4—6+8. Head 3.6—3.8 in length; depth 5—5.1; eye 2.8—3 in head; snout 3.7—4.7; interorbital 9—14; depth of caudal peduncle 2.7—2.8. Maxillary extending to below anterior border of pupil; jaws equal; vomer and palatines toothed. Opercle with a sharp short spine above. Caudal broadly rounded posteriorly.

Color light olivaceous yellow, paler below; five brown, oblique, cross bands all disappearing rather abruptly below lateral line. A dusky curved band connecting posteroior margins of both eyes. Caudal pale, with brownish curved vertical bands, with the convexity directed forward.

Described from three specimens, 121 (Cat. No. 1514), 113 (Cat. No. 7815) from Mimase, Kōchi City and 62 (Cat. No. 2346) from Urado, Kōchi City, mm long respectively.

Atsumi Bay, Aichi Prefecture to Formosa.

12. *Parapercis aurantiaca* DÖDERLEIN Aka-toragisu

Parapercis aurantiaca DÖDERLEIN, Fische Japans, III, 1884, p. 191, pl. 3, figs. 2, 2a. Tōkyō. —TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 120, fig. 352.
Neopercis aurantiaca JORDAN & SNYDER, Proc. U. S. Nat. Mus., 24, 1902, p. 468. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 366. —TANAKA, Figs. & Descripts. Fish. Japan, 17, 1914, p. 289, pl. 79, fig. 272. —KAMOHARA, Offshore bottom-fish., Maruzen Co., Tōkyō, 1938, p. 63. —KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1452. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. Taiwan. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

D. V, 23; A. 20; scales 60 in lateral line; 6 above, 18 below; gill rakers 4—6+7—8. Head 3.7—4 in length; depth 4.9—5.5; eye 2.6—3.3 in head; snout 3—3.1; interorbital 8—10.5; depth of caudal peduncle 2.9—3. Maxillary extending below anterior rim of pupil; jaws equal; vomer and palatines toothed. Opercular spine short, but pointed. Caudal broadly rounded.

Color light yellow, with seven, broad, yellowish cross bands; dorsal with several oblique lines posteriorly. Caudal with six wavy bands.

Described from three specimens, 173 (Cat. No. 347), 156 (Cat. No. 8929) and 102 (Cat. No. 8931) mm long, from Mimase, Kōchi City.

Tōkyō to Formosa.

13. *Parapercis okamurai*, n. sp. New Japanese name: Soko-toragisu (Pl. II, Fig. 2)

D. V, 23; A. 20; P. 18; V. I, 5; C. 18; scales 62 in lateral line; 5 above, 15 below; gill rakers on first arch 4+8. Head 3.7 in length; depth 5.7; eye 3.1 in head; snout

3.9; interorbital 14.5; depth of caudal peduncle 2.9.

Body elongate, subcylindrical, very slightly tapering posteriorly; caudal peduncle shortish, much compressed. Head shortish, much wider than deep, with evenly curved profile; eye moderately large, directed obliquely upward, projecting a little beyond profile, its posterior border a trifle nearer tip of opercular flap than tip of snout; interorbital space narrow, flattish; snout moderately long, with strongly and evenly curved profile, its tip pointed when viewed from side, but broadly rounded when viewed from above; nostrils two, subequal, small, in front of eye, the anterior with a well developed flap; posterior nastril with slightly elevated rim, but no flap; maxillary entirely hidden beneath preorbital, its distal extremity bent downward, scarcely reaching below anterior rim of pupil. Mouth wide, directed obliquely upward; the jaws equal. Villiform teeth in jaws in narrow bands, outer ones enlarged; vomer and palatines also toothed. Tongue rather acutely pointed, smooth; preopercle very broadly rounded; a flat spine present on opercle. Gill rakers on first arch very short, their tips broadly rounded.

Dorsal inserted above behind base of pectoral; the first spine shortest, its length 3 in eye-diameter; the fifth spine longest, its length subequal to snout; rays of soft portion subequal, last ray itself abruptly much shorter. Anal inserted below sixth ray of dorsal, similar in form to the soft part of the latter, both fins extending a good deal beyond base of caudal when laid posteriorly; pectoral low down, rather pointed, reaching beyond above vent; ventrals composed of a very weak spine and five rays, inserted slightly before base of pectoral, not reaching vent; caudal rounded when spread, its rudimentaly rays one or two in number, both dorsally and ventrally. Scales rather small, ctenoid; cheeks, suborbitals, opercle and subopercle closely scaled, other parts of head entirely naked. Lateral line high, concurrent with back, bent in very broad curve beneath seventh ray of dorsal, running through the middle of body and ceasing at base of caudal; pores well developed on naked parts of head.

Color in formalin yellowish, paler below. Spinous dorsal blackish. Several black spots on the neighboring parts of upper corner of gill opening; 4 small black spots on lateral line; axil of pectoral blackish; upper basal part of caudal with an elliptical black blotch, size greater than pupil. Dorsal with about 10 oblique bluish lines posteriorly; about 5 vertical bluish bands on caudal. Several oblique yellowish bands on under sides of body.

Described and figured from a specimen, 129 mm long (Cat. No. 8872), from Mimase, Kōchi City, by Messrs. Osamu Okamura and Kunio Amaoka, both graduate students of Kyōtō University, March 22, 1960. The species is named in honor of Mr. Okamura.

The dimensions of another one, 112 mm long (Cat. No. 8917) from the same place is read as follows: D. V, 24; A. 21; scales 62 in lateral line; 5 above, 13 below; gill rakers 5+9. Head 3.5 in length; depth 6.1; eye 3 in head; snout 3.7; interorbital 13; depth of caudal peduncle 3.3.

The present species is related to *Parapercis aurantiaca* DÖDERLEIN, but differs from it in having a greater number of scales in lateral line, 62 instead of 60, a smaller number of scales above lateral line, 5 instead of 6, and different coloration.

14. *Parapercis decemfasciata* (FRANZ) Yūdachi-toragisu

Neopercis decemfasciata FRANZ. Abh. Bayer. Akad., 1910. p. 81. taf. 9, fig. 78. Misaki, Sagami; Aburatsubo, Sagami; Yokohama. —JORDAN, TANAKA & SNYDER, Jour. Coll. Sci., Imp. Univ. Tōkyō, 33 (1), 1913, p. 366. —KAMOHARA, Offshore bottom-fish., Maruzen Co. Tōkyō, 1938, p. 63. —KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1453. Kōchi. —CHEN, Quart. Jour. Taiwan Mus., 4 (3 & 4), 1951, p. 126. Taiwan. —MATSUBARA, Fish Morph. & Hier., I, 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

Parapercis decemfasciata TOMIYAMA, ABE & TOKIOKA, Encyclop. Zool., II, 1958, p. 119, fig. 351.

D. IV, 23; A. 20; scales 57 in lateral line; 5 above, 12 below; gill rakers 4+7. Head 4.1 in length; depth 5.4; eye 3.2 in head; snout 4; interorbital 5.3; depth of caudal peduncle 2.7. Maxillary extending to below anterior rim of pupil; lower jaw slightly projecting; vomer and palatines toothed. Opercle with a short spine. Caudal rounded.

Color yellowish red, pale below, with 10 oblique transverse pale brownish bands above lateral line; 6 transverse pale brownish bands on caudal.

Described from a specimen, 160 mm long (Cat. No. 8926), from Susaki.

Tōkyō to Formosa.

Kochia, n. gen.

(Genotype. -*Neopercis flavofasciata* KAMOHARA)

This new genus is related to *Parapercis* BLEEKER, 1863 (Genotype. —*Sciaena cylindrica* BLOCH), but differs from it in having only two dorsal spines, instead of four or five, and lower jaw much shorter than the upper. Named after Kochi City.

15. *Kochia flavofasciata* (KAMOHARA) Kisuji-toragisu (Pl. II, Fig. 3)

Neopercis flavofasciata KAMOHARA, Zool. Mag., Tōkyō, 48, 1936, p. 309, fig. 2. Mimase, Kōchi City. —KAMOHARA, Offshore bottom-fish., Maruzen Co., Tōkyō, 1938, p. 64. —KAMOHARA, Bot. & Zool., 6 (8), 1938, p. 1451, fig. 2. —KAMOHARA, Repts. Kōchi Univ., Nat. Sci., 3, 1952, p. 77. Mimase, Kōchi City. —MATSUBARA, Fish. Morph. & Hier., I, 1955, p. 691. —KAMOHARA, Repts. Usa Mar. Biol. Sta., 5 (1), 1958, p. 67.

D. II, 22; A. 17; scales 60 in lateral line; ? 4 above (On account of denuded condition, an accurate enumeration can not be made); ca. 11 below; gill rakers 4+10. Head 3.6 in length; depth 7; eye 4.2 in head; snout 3.3; interorbital 6.5; depth of caudal peduncle 3.1. Maxillary reaching vertical through posterior margin of eye; lower jaw much included; teeth on vomer and palatines. Opercle with a short flat spine. Caudal acutely rounded posteriorly, rather rhomboidal.

Color brownish, paler below; a broad longitudinal yellowish band from above tip of snout, passing below eye, to upper part of base of caudal; similar band on interorbital space, connecting the eyes. Dorsal yellowish; anal pale, edged by yellowish; upper basal part of caudal with an oval black spot; about 10 transverse brownish bands on lower part of caudal.

Described and figured from a single specimen, 157 mm long (Cat. No. 8842), from Mimase, Kōchi City. The type specimen of this species was destroyed by a war-caused fire in 1945. The dimensions of the other two specimens, 145 (Cat. No. 7592) and 136 (Cat.

No. 8916) mm long respectively, from the same place are read as follows: D. II, 22; A. 17; scales 58 in lateral line; ?4 above (On account of denuded condition, an accurate enumeration can not be made); ca. 11 below; gill rakers 4+6−10. Head 3.8—3.9 in length; depth 8—8.1; eye 3.9—4.3 in head; snout 3.4—3.8; interorbital 6.2—7.5; depth of caudal peduncle 3—3.1.

Known only from Kōchi Prefecture.

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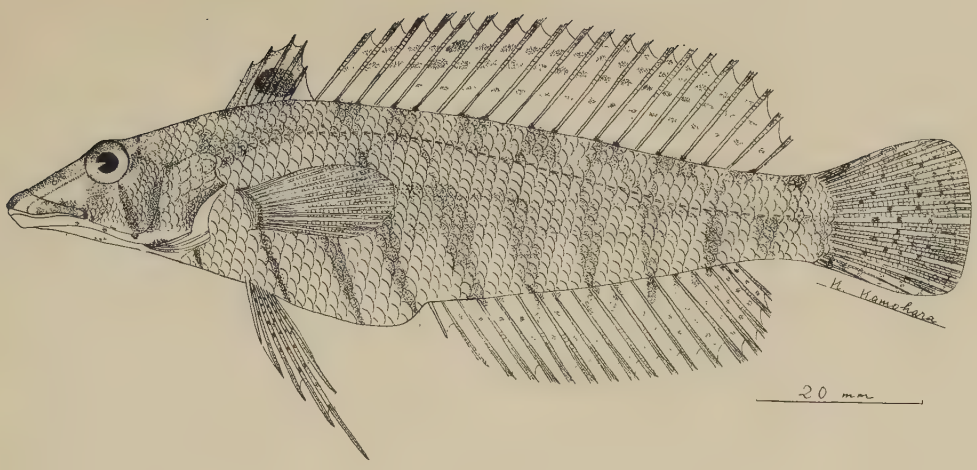

Fig. 1. *Parapercis cylindrica* (BLOCH)

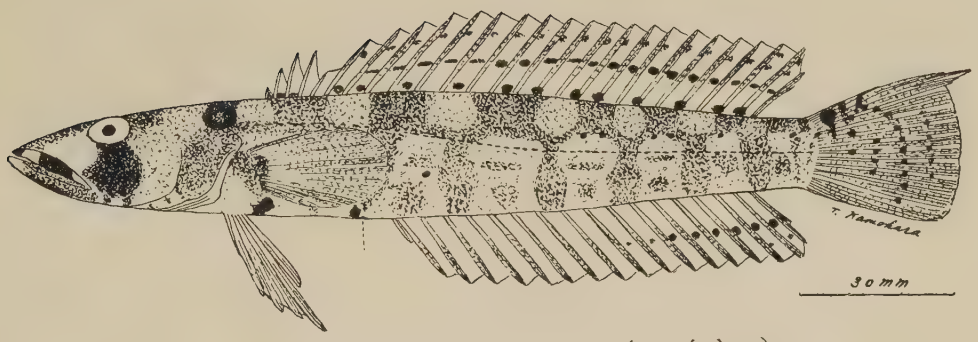

Fig. 2. *Parapercis tetracantha* (LACÉPÈDE)

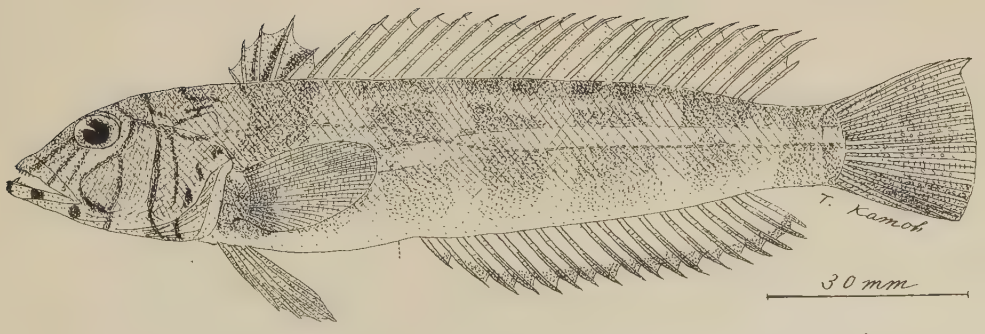

Fig. 3. *Parapercis pulchella* (TEMMINCK & SCHLEGEL)

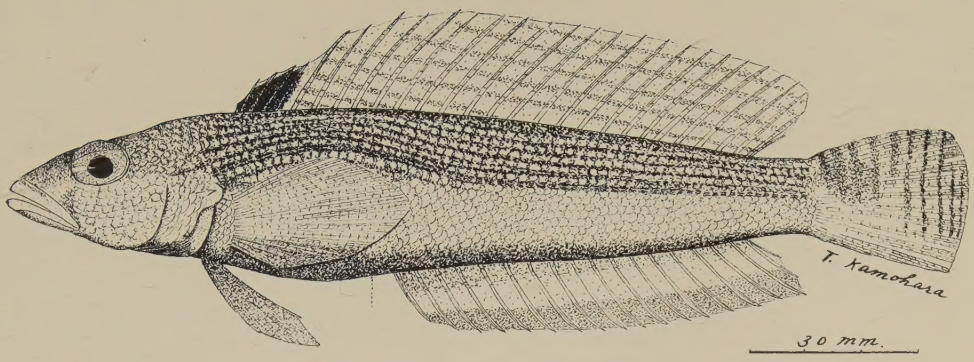

Fig. 1. *Parapericis mimaseana* (KAMOHARA)

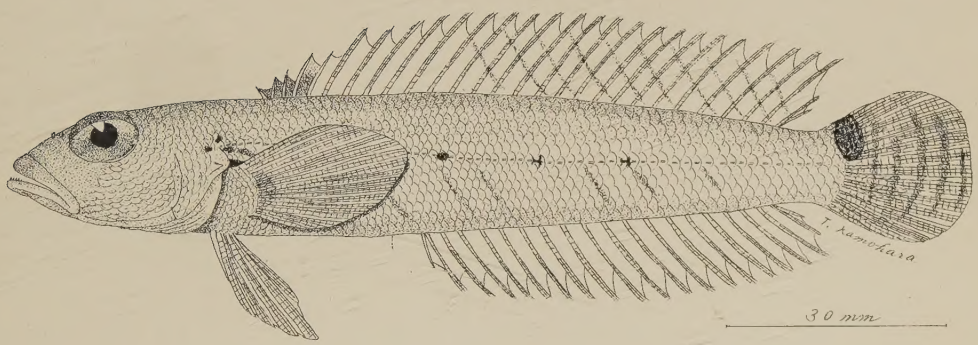

Fig. 2. *Parapercis okamurai*, n. sp.

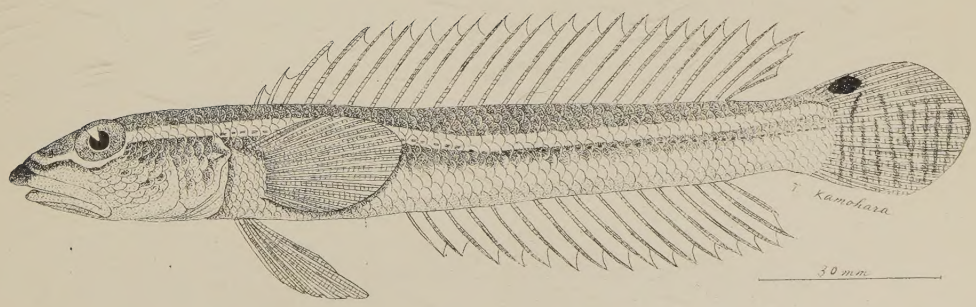

Fig. 3. *Kochia flavofasciata* (KAMOHARA)

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